CTI 华测检测

CMA
210900341277

检测报告
Test Report

报告编号 A2260130317102E
Report No. A2260130317102E

报告抬头公司名称	如皋市大昌电子有限公司
Company Name shown on Report	RUGAO DACHANG ELECTRONICS CO., LTD
地　　址	江苏省如皋市柴湾工业园区
Address	CHAIWAN INDUSTRIAL PARK, RUGAO, JIANGSU,CHINA

以下测试之样品及样品信息由申请者提供并确认
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

样品名称	二极管
Sample Name(s)	Diode
样品型号	DO27
Model No.	DO27
样品接收日期	2026.02.26
Sample Received Date	Feb. 26, 2026
样品检测日期	2026.02.26-2026.03.05
Testing Period	Feb. 26, 2026 to Mar. 5, 2026

检测要求	根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)进行测试。
Test Requested	As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) in the submitted sample(s).
检测依据/检测结果	请参见下页。
Test Method/Test Result(s)	Please refer to the following page(s).

批　准
Approved by

陈凯敏
实验室经理 Lab Manager

日　　期
Date

2026.03.05

No. R794243619

华测检测认证（上海）有限公司
检验检测专用章
Centre Testing International Pinbiao(Shanghai) Co., Ltd.

上海市闵行区万芳路 1351 号
No.1351, Wanfang Road, Minhang District, Shanghai, China

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结论 Conclusion

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟 RoHS 指令 2011/65/EU 及其修订指令 (EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

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符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

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检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
	IEC 62321-7-2:2017 和/或 IEC 62321-5:2013 测试总铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-12:2023	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-12:2023	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-12:2023	GC-MS

检测结果 Test Result(s)

测试项目 Tested Item(s)	**结果 Result**		**方法检出限 MDL**	**限值 Limit**
	001	**002**		
铅 Lead (Pb)	15672 mg/kg*	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	--	8 mg/kg	1000 mg/kg
	--	N.D.▼	0.10 μg/cm² (LOQ)	1000 mg/kg

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
多溴联苯 Polybrominated Biphenyls (PBBs)			
一溴联苯 Monobromobiphenyl	N.D.	25 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	25 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	25 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	25 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	25 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	25 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	25 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	25 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	25 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	25 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.	25 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	25 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	25 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	25 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	25 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	25 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	25 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	25 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	25 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	25 mg/kg	

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测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	001		
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

样品/部位描述 Sample/Part Description

序号 No.	CTI 样品 ID CTI Sample ID	描述 Description
1	001	黑色本体（整体测试） Black body(Tested as a whole)
2	002	银色金属引脚 Silvery metal pin

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备注: **对于检测铅，镉，汞之样品已消解完全。**

按照目前手段，样品无法进一步拆分，样品整体测试，测试结果不代表整体测试样品中任何一种单一材质的含量。

-N.D. = 未检出 (小于方法检出限或定量限)

-mg/kg = ppm = 百万分之一

-1000 mg/kg = 0.1%

-LOQ = 定量限，六价铬的定量限为 0.10 μg/cm^2

-▼六价铬浓度小于 0.10 μg/cm^2, 样品未检出六价铬。由于未获知样品的存储条件和生产日期，样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

-*=根据客户声明，样品中的铅来自于高温融化焊料。高温熔融焊料中的铅（即：铅基合金中铅含量≥85%（Wt））， 根据欧盟指令 2011/65/EU 附录 III 豁免项第 7(a)条，是符合豁免的；根据客户声明，样品涉及欧盟 RoHS 指令 2011/65/EU 豁免项第 7(c)-I 条：在玻璃或陶瓷（电容器中的介电陶瓷除外）中含铅的电气和电子元件（如压电器件），或在玻璃或陶瓷基体化合物中含铅的电气和电子元件。

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**

The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology.The result(s) shown on this report may be different from the content of any homogeneous material.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL or LOQ)

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2

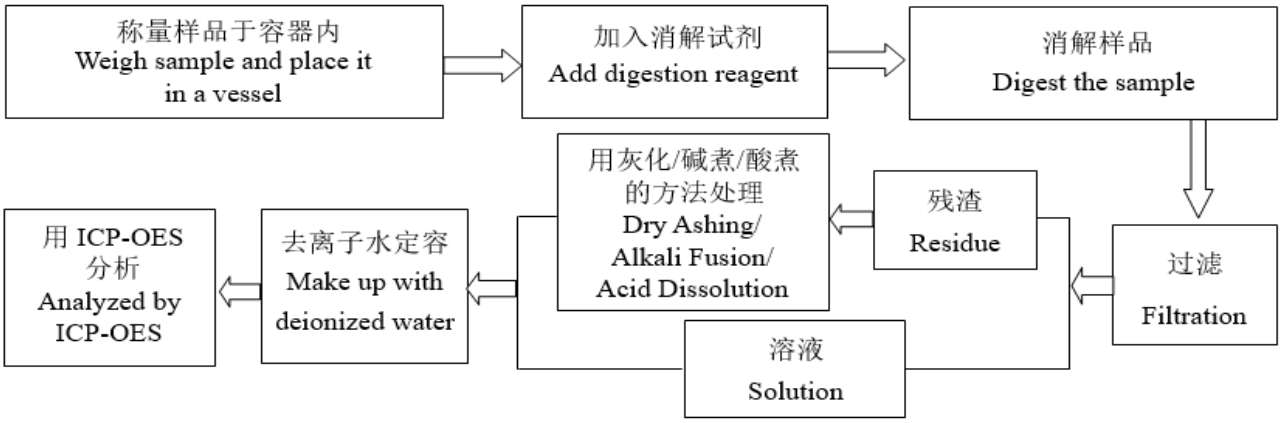
-▼The sample is negative for Cr(VI) − The Cr(VI) concentration is below 0.10 μg/cm^2. The coating is considered a non-Cr(VI) based coating. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

-*=According to the client’s statement, lead mainly comes from the high melting temperature type solders. Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead) is exempted from the restriction, with reference to EU Directive 2011/65/EU annex III Exemption Applications 7(a); According to the client’s statement, the material of the sample(s) fall into exemption items 7(c)-I according to EU Directive 2011/65/EU: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

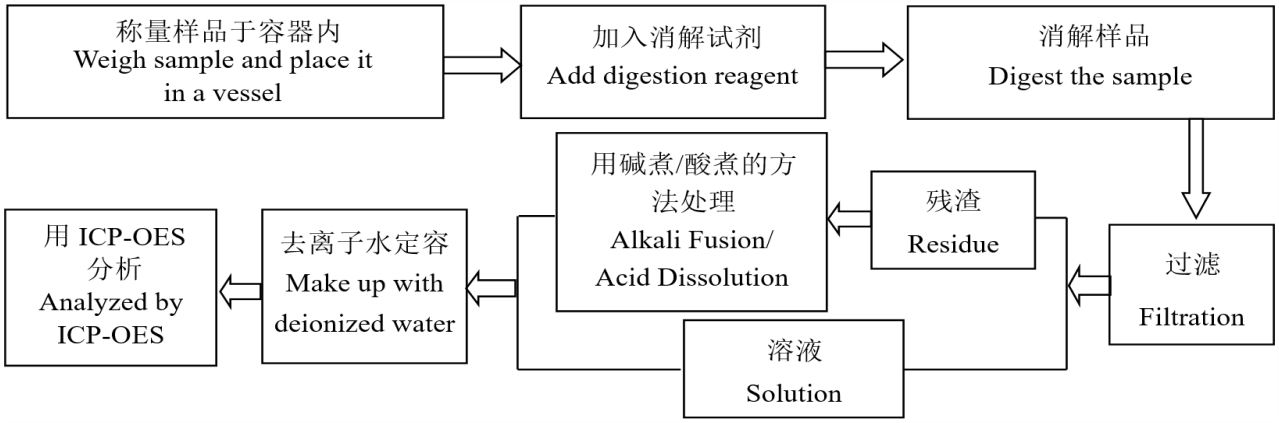
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检测流程 Test Process

1. 铅 Lead (Pb)，镉 Cadmium (Cd)，铬 Chromium(Cr)

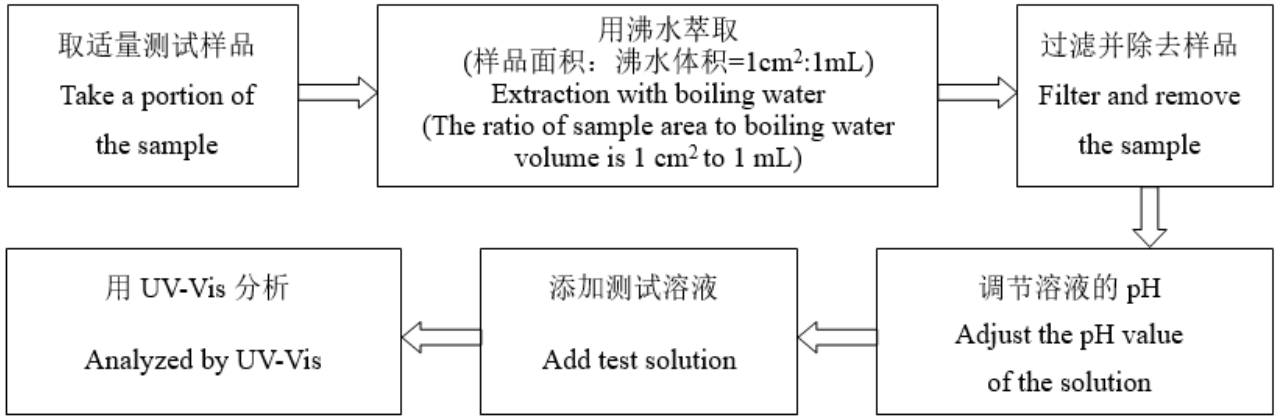


2. 汞 Mercury (Hg)



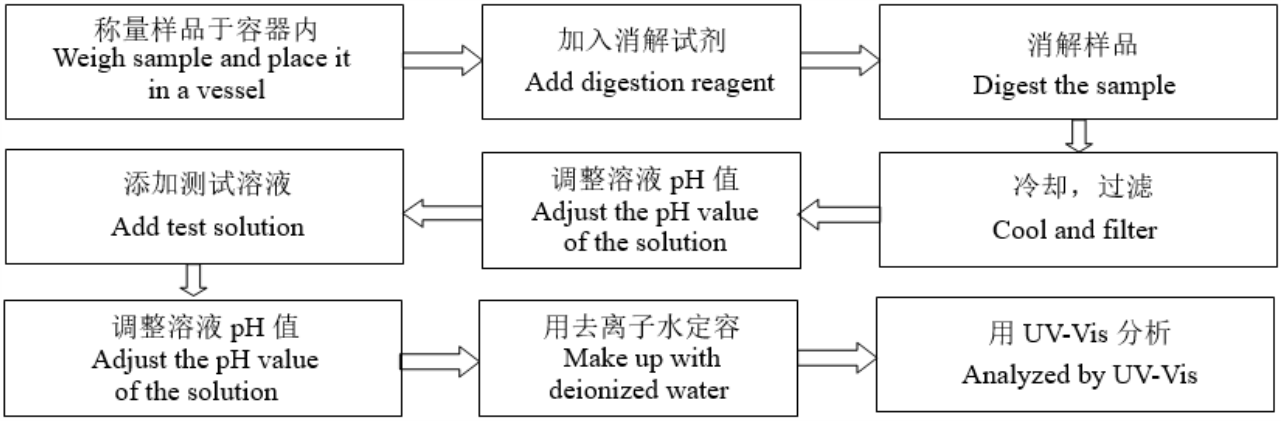
3. 六价铬 Hexavalent Chromium (Cr(VI))

(1) IEC 62321-7-1:2015

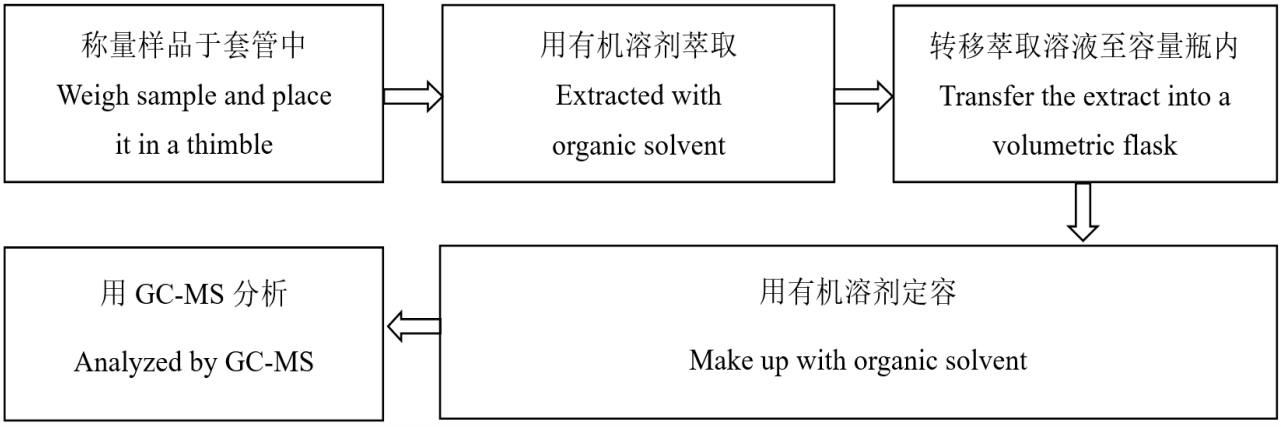


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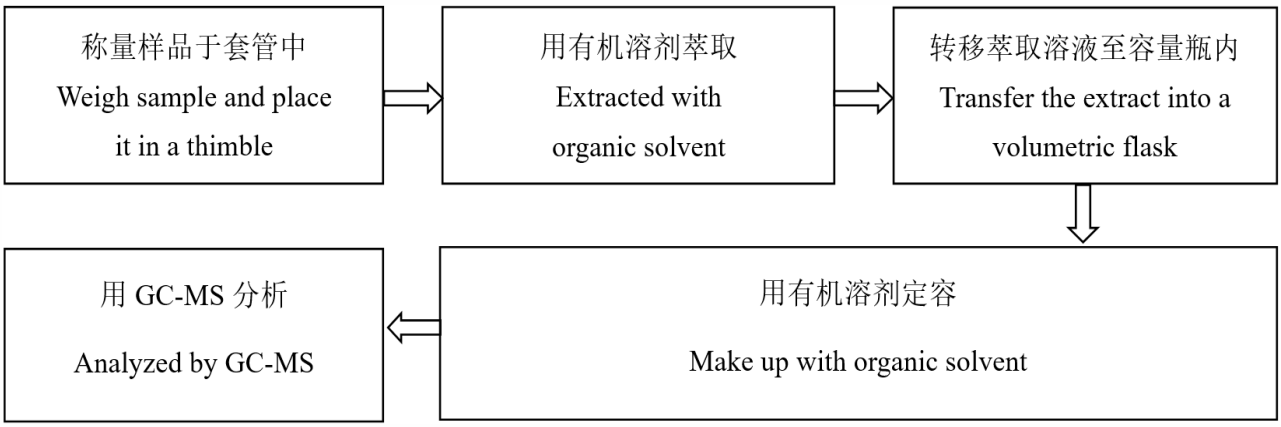
(2) IEC 62321-7-2:2017



4. 多溴联苯 Polybrominated Biphenyls (PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



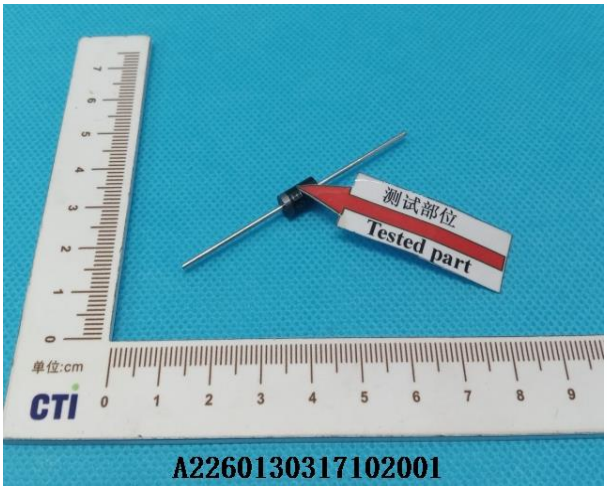
5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)

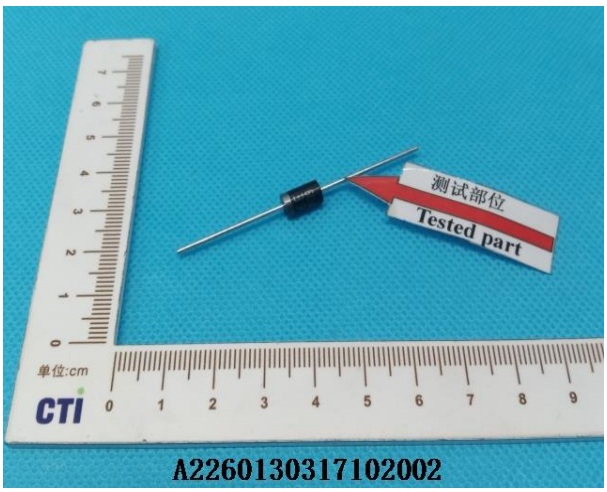


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样品图片

Photo(s) of the sample(s)





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声明 Statement：

1. 本报告无批准人签字、“专用章”及报告骑缝章无效；
   This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI 未核实其真实性；
   The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn’t verified;
3. 本报告检测结果仅对受测样品负责；
   The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 除非另有说明，报告参照 ILAC-G8:09/2019 / CNAS-GL015:2022 使用简单接受（w=0）二元判定规则进行符合性判定; Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019 / CNAS-GL015:2022;
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   In case of any discrepancy between the English version and Chinese version of the reports (if generated), the Chinese version shall prevail.

*** 报告结束 ***
*** End of Report ***

附录 Appendix

客户参考信息 Client Reference Information

R1、A405、DO41、DO15、DO15L、R6

声明 Statement:

1. 附录内容由申请者提供，申请者应对其真实性负责，CTI 未核实其真实性。
   The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. 附录内容为 A2260130317102E 报告的补充。
   The Appendix Information is/are the supplement(s) for the Report A2260130317102E.